(Nelson)(U.S. 2001/0036200A1). Claims 4-8,10,11,15, and 19 were objected to as being dependent upon a rejected base claim. A separate sheet showing the status of all claims, in accordance with C.F.R. 121 is enclosed. In addition, the drawings were also objected to because they lack formality and clarity. Replacement drawings containing no new matter, and in accordance with 37 C.F.R 1.121(d), are enclosed herein. The Examiner is requested to reconsider the rejection claims in light of the reasoning presented below.

First, it should be appreciated that Nelson is directed towards a CDMA system, whereas the present application, as well as Zscheile, are directed towards TDMA systems. Thus there would have been no motivation to combine Nelson's TDMA system with Zscheile's CDMA system as suggested by the Examiner.

For the sake of argument only, even if Nelson's PN codes were somehow combinable with Zscheile, Nelson's PN codes are very short; each short PN code fits within a single time slot (see Nelson, paragraph 0065). Each short PN code is mapped to a message (paragraph 94). A message says "remain in standby", "request to be placed in active mode", et cetera.

It will also be appreciated that while Nelson uses PN codes to establish timing (see Nelson, paragraph 0065) and that timing and PN code phase are the same. However, in the present application, frames, time slots, and sub-slots are based on PN code epochs <u>and</u> PN code phase. The present application PN code is hours long, and frames are identified by minor PN code <u>epochs</u>. Timing is corrected based on phase errors measured in chips. However, Nelson's PN codes are short, effectual pulses,

and their arrivals are measured with a "pulse timing analyzer", not with a PN code phase correlator. Nelson's PN codes are not preceded by contiguous PN sequences or followed by contiguous PN sequences; Nelson's PN codes show up as a pulse or a burst, and their arrival is measured by a "pulse timing analyzer" (see Nelson, paragraph 0065). Nelson does not measure time with PN code phase, and there is nothing PN-code-phase obvious about Nelson.

It will also be understood that Zscheile uses a whole time slot for a priority interrupt. In other words, Zscheile is a free-for-all; any spoke can try to request priority in this time slot; collisions can occur; there is no privacy.

Further, Zscheile identifies at least 4 classes of priority users (see Zscheile figure 8). A priority message is shorter than the length of a time slot, which allows the priority message to be placed early in a priority time slot or staggered (delayed) in time to any of three additional delayed-in-time positions (giving four positions in all). The highest priority user gets to place the Priority Interrupt (PI) message at the earliest-possible position in the PI slot. The Hub receiver will acquire that signal first, and the Hub's receiver will reject any attempts at PI requests from the three delayed positions because the Hub's receiver will be occupied by the highest priority, earliest-arriving PI request. If there is not a PI request in the first and earliest slot, the first arriving PI request captures the Hub's receiver.

It will be appreciated that unlike the present invention as claimed, Zscheile, through the time staggering of PI requests

affords some level hierarchy (priority) among users, but exclusive use of the time slot or a staggered position is not guaranteed. Collisions can still occur; i.e., in Zscheile two or more users (spokes) can attempt a PI request at the same time.

Moreover, Zscheile's framing and timing are not limited by a PN code architecture as claimed in claim 1 of the present application. Indeed, nowhere does Zscheile disclose or suggest limiting frames to PN code architecture. Frames are minor epochs long, and bit rates and minor epochs share multiplicands in order to accommodate the architecture.

Another significant difference between RAMA-PI (Zscheile) and RAMA-PM (the present application) is that the present application uses sub-slots as claimed in claim 1. Sub-slots are an unique feature to priority user privacy (exclusive use of a sub-slot) and low latency. As can be seen in the present application's figure 2A, there are an example 6 sub-slots per Priority time slot. Each user (spoke) is assigned one or more sub-slots. A sub-slot is never assigned to more than one user; consequently, there are <u>no</u> collisions. Low latency is guaranteed because a large number of private opportunities are afforded to Priority Users in the present application. Whereas in Zscheile, on the other hand, shared opportunities are infrequent with RAMA-PI, and PI collisions force users to re-try at later opportunities.

In the claim by claim analysis below it will be shown that the present application claims features not otherwise disclosed or suggested by Zscheile in view of Nelson.

Claim 1 of the present application recites A hybrid TDMA spread spectrum communication system. The includes a HUB for generating a HUB TDMA epoch; wherein the HUB TDMA epoch includes at least one Priority Message slot having at least one Priority message sub-slot. Claim 1 also includes at least one SPOKE adapted to transmitting a Priority Message during the Priority message sub-slot within the HUB TDMA epoch; wherein a symbol length of the Priority Message is adapted to coincide with a PN epoch. It will appreciated that Zscheile, as noted above, does not disclose or suggest limiting frames to PN code architecture.

It will be appreciated that claim 1 constructs Hub and Spoke TDMA epochs with Priority Message sub-slots and not with PI staggered whole-slots as taught by Zscheile. It will be furher understood that another discriminating difference between the present application and Zscheile is that Zscheile's hardware and system cannot accommodate the meticulous timing demanded by Priority Management (PM) sub-slots as claimed in the present application.

In addition, Claim 1 claims a Spread Spectrum Communication link, whereas Zscheile does not disclose or suggest a spread spectrum communication link. Nor does Nelson disclose or suggest a Spread Spectrum communication link, and it's not obvious or anticipated. It will be understood that Nelson's short PN codes are not a Spread Spectrum communication system; in other words, using a short PN code "pulse" in one time slot is not a spread spectrum system. A spread spectrum system in the present application has long codes, and everything is

spread for hours and hours on end; epochs (TDMA frames and data) are timed and synchronous with the PN codes.

Nelson's PN codes are short and fit within a single time slot. Nelson puts one short PN code (not a frame long, but shorter than a time slot as claimed in the present application) in one of the many time slots per frame.

Claim 9: First, PN Epochs are claimed, whereas Zscheile does not disclose or suggest PN epochs. Indeed, Zscheile does not disclose or suggest anything PN. Also, (private) sub-slots are claimed in the present invention, whereas Zscheile doesn't disclose or suggest sub-slots.

Claim 12: Claim 12 claims Priority Management, which is done with PN epochs and private sub-slots--the teachings of which are contrary to Zscheile. Zscheile's priority interrupts are "managed" by means of time staggered delays within a time slot and collisions. Zscheile uses one whole, free-for-all, time-delay staggered priority interrupt. Zscheile doesn't disclose or suggest PN epochs. Indeed, as pointed out earlier, Zscheile is silent with regards to PN structure as claimed in the present application.

Claim 16: Claim 16 claims to manage Priority Management data, whereas Zscheile claims the "management" of Priority Interrupt data. It will be appreciated that this is not merely an issue of changing names or simply calling something different. The "assigned portion of the PM slot" mentioned in Claim 16 is an assigned sub-slot. Zscheile's Priority Interrupt message is almost a time slot long. It can come from any of approximately 32 users. It can be very latent. In the

present application, there are pluralities of <u>unique</u> users in a single time slot. The management is obviously different, taking care of a plurality of users per time slot instead of just one. In other words, in the present claim, each sub-slot is assigned to a unique user (spoke). Zscheile, on the other hand is not managing sub-slots.

With regard to Claims 2 & 3 of the present application: Zscheile, as described above, doesn't claim anything PN. It is also not clear from the Examiner's rejection of these claims where the Examiner rejects claim 2 due to Zscheile, but references paragraphs from Nelson (paragraphs 0024 and 0063). Nelson addresses the mapping of specific user requests per given PN code. Nothing about Nelson suggests the need for Rake Receiver speeds, whereas the present application recites the need for speed to accommodate sub-slot management. It is not obvious, nor can it be taught from Nelson's pulse timing analyzer that a rake receiver is needed.

Claim 13: Zscheile doesn't disclose or suggest sub-slots or sub-divisions of priority messages.

Claim 14: Nelson is not using PN code phase for timing. To Nelson, the PN code is a pulse (On and Off), and Nelson is doing his timing with a pulse timing analyzer.

Claim 17: Nowhere does Zscheile disclose or suggest PN coding or framing.

Claim 18: Nelson is not using PN code phase difference

Claim 20 claims a program storage device, which follows the allowable claims, however, the Examiner states, page 3 of the present office action, that Claim 20 is rejected. Nor does the Examiner state anywhere why Claim 20 is rejected. The Examiner is kindly requested to clarify.

Filed concurrently within pair is the fee for a petition for a one month extension of time.

Should any unresolved issue remain, the Examiner is invited to call Applicant's Attorney at the telephone number indicated below.

Respectfully submitted,

/Kevin P. Correll/ 4/12/07

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